

THE
BOSTON MEDICAL AND SURGICAL JOURNAL.

VOL. LXVI.

THURSDAY, APRIL 3, 1862.

No. 9.

VERATRUM VIRIDE.

By SAMUEL W. ABBOTT, M.D., OF WOBURN.

[Communicated for the Boston Medical and Surgical Journal.]

HAD the question been asked of the medical profession of New England, five or six years since, "What is the most reliable depressant in our *Materia Medica*?" I have no doubt the answer would have been returned from at least nine tenths of the profession—*Antimony*. But, let the same question now be put to the same number of men, and I believe the proportion in favor of such an answer would be largely diminished. If there is any one article that would turn the scale against it, that article is *Veratrum Viride*.

Our knowledge of the therapeutical value of any drug is obtained, not by observing its effect in any individual case, but by a careful comparison of its effects in a large number of cases. Such has been the fact in regard to the drug in question, and our knowledge of its action is due in a great measure to the care which has been taken by one of the District Medical Societies of this State, in collecting facts, not from the experience of any one man, but from a multitude of men, and a multitude of cases, not only in this State, but throughout the country. The evidence of so large a number of intelligent physicians upon one subject, cannot be lightly disregarded.

I shall in this paper give—

First. A description of the plant.

Secondly. An account of its effects on the system.

Thirdly. Its therapeutical value.

I.—DESCRIPTION OF THE PLANT.

The *Veratrum viride* (American hellebore, poke root, &c.) is found in the natural order of *Melanthaceæ*, the same order which contains, also, *colchicum*, *cevadilla*, and *veratrum album*, all of medicinal value. It is a stout, tall, and leafy plant, with a simple stem, growing three or four feet high. The leaves are oval in shape, broad, acuminate, strongly parallel-veined, and sheathing at the base, the lower

being ten to twelve inches in length. The flowers are of a yellowish-green, nearly of the color of the leaves, very numerous, and growing in long racemes, each of which is furnished with a bract. They emit a somewhat disagreeable narcotic odor. I have also noticed that where the plants grow abundantly, the flowering specimens are very few in number; I should think not more than one in ten of the whole number.

It is a coarse-looking plant, and is very common in meadows and woods, invariably near some running streamlet. It grows abundantly in all parts of the United States. In New England, it springs up early in April, and blossoms in June or July.

The part employed in medicine is the root, which is stout and thick, premorse at the base, and gives out a great number of radicles. In this respect it very much resembles the *Dracontium* (skunk cabbage), and as the latter grows in nearly the same localities with the *veratrum*, and springs up at the same time of the year, might be mistaken for it by a careless observer. But the fleshy spadix enclosed in its spathe, the purplish color, together with the extremely fœtid odor of the *dracontium*, readily serve to distinguish it. Its root, also, is much larger, and its radicles coarser than those of the *veratrum*, although resembling them in form and color.*

Question of identity with V. album.—In the second volume of Dr. Bigelow's *Medical Botany* may be found an excellent representation of the *veratrum viride*, and in the fourth volume of Woodville's *Medical Botany* (London, 4to.) may also be seen a similar illustration of the *V. album*. From the close resemblance of the two figures in their essential points, it occurred to me that the two species might be identical, and that the discrepancies in regard to their therapeutical effects may be due to inaccuracies of observation in regard to the latter. All the descriptions which we have of *V. album* are vague, and indefinite in their details.

Comparative strength of the Seeds.—Knowing that, in the case of another medicinal plant of this order (*colchicum*), the seeds of the plant contain its active principle as abundantly as the root, and in certain other plants (*e. g.* *stramonium*) even to a greater amount, I was curious to know if such were the fact in regard to *V. viride*. I therefore gathered a quantity of them, by shaking the flowering plants and collecting the falling seeds, late in the autumn. These seeds were already quite dry, and taking a quantity of them sufficient to make a pint of tincture of the same strength as that adopted for the root (four ounces to one pint of diluted alcohol), I prepared the tincture in exactly the same manner employed in making that of the root, viz., by maceration and displacement. I took this tincture on three different occasions, to note its effect; *at first*, in about the same doses and with the same frequency observed in administering the tincture of the root (five to six drops every two hours). *Result, after the*

* For an accurate illustration of the *V. viride*, with its flower, seed-capsule and root, see *Amer. Jour. Med. Sciences*, Oct., 1861, p. 397.

fourth dose.—Scarcely any diminution of the pulse. *Second trial.*—Increased the dose to ten drops. Pulse diminished about ten beats per minute. *Third trial.*—Increased the dose to twenty drops, and took it once an hour. Pulse diminished from 75 per minute (its average rate when sitting quietly in my chair), to 58–59, and no nausea or other marked symptoms induced. I came to the conclusion that this tincture of the seeds, although by no means inert, could be of but little value compared with that made from the root. I had learned a negative fact.

Two other physical properties of this plant are worth noticing here—its taste, which is acrid, bitter, unpleasant, extending to the fauces, and persisting for a long time; also, its great sternutatory power, which I have often experienced when pulverizing the drug in a mortar, or standing near the mill in which it was being ground. The fit of sneezing occasioned was violent, and often lasted five to ten minutes without cessation.

Time of Gathering.—The few authorities which have treated of this plant, state that it is most effectual in its action when gathered in the autumn. But, that which was collected a few years since under the supervision of the Middlesex East District Medical Society, was dug both in the spring and fall, and no perceptible difference was observed in the tincture prepared from either collection. The most convenient time, certainly, is the spring, for it is then found much more readily than in the autumn.

The part employed is the root, which may be easily dug in April or May, and washed in the stream near which it is invariably found. The larger roots should be quartered, or sliced, to allow them to dry more readily. The process of drying may be performed by artificial heat, or by the sun. The quickest and most convenient mode I have yet seen is that employed by the Medical Society above alluded to, viz.: by taking an empty barrel, knocking out both heads, inserting a sieve near one end, filling nearly full with the fresh root, and placing the whole over the register of a common house-furnace, allowing the warm air to pass through it for a few hours. When thoroughly dry, it may be easily pulverized, by mill or mortar, and may then be used in the form of powder. But the fluid preparations are more generally used at present. They are the fluid extract and the tincture. The latter is perhaps the more reliable, and may be easily made by macerating the coarsely-powdered root in dilute alcohol, in the proportion of four ounces of the former to one pint of the latter, putting the whole into a displacement apparatus, and allowing the tincture to run off to the required amount; it is then ready for use.

A solid extract is also made by evaporating an infusion at a low temperature. I should think a wine of veratrum might also be made useful.

II.—EFFECTS UPON THE SYSTEM.

That veratrum viride is a decided sedative, there can be no doubt.

But is it a nervous, or an arterial, sedative? By some writers it has been classified under the nervous division, by others under the arterial, and it seems to me that both are in some degree correct. The former, those who class it with the nervous sedatives, seem to look more thoroughly into the primary action of the drug; and the latter, overlooking this point, appear to regard that action which is most evident to the senses. Dr. Wood, in his treatise on *Therapeutics*, says that arterial sedatives directly change the character of the blood, as is the case with antimony. Nervous sedatives, on the contrary, by a direct influence, reduce nervous power, and also depress the circulation. Now it appears most probable from analogy, that this is just the character of *veratrum viride*, which comes in contact with the nervous centres, so that their action in some way (we know not how) depresses that of the heart, without in the least degree devitalizing the blood itself.

The characteristics of its action are well marked. The *first* phenomenon noticed after the system has come under its influence, is a reduction in the frequency of the pulse. *Secondly*, some diminution in the frequency of the respiration. *Thirdly*, under a large or frequent dose, a sense of faintness or vertigo ensues, with nausea, vomiting, and general prostration. *Fourthly*, the secretions are somewhat stimulated.

1. *Effect on the Circulation.*—It is probable that *veratrum viride* begins to be absorbed as soon as taken; but when administered in the usual dose of five to eight drops, every two or three hours, the system is not fully brought under its influence until after the second or third dose. It is also rapidly eliminated, its effects passing away in a few hours. The effect on the pulse is very marked, causing it to fall in a few hours from 80 to 40 or 50 per minute when in health, and in high arterial excitement from 140 or 150 down to 60 or 70, more than one half. The effect is less marked in health than in disease. In this way all, and even more than can possibly be said in favor of the lancet, is safely effected by means of the *veratrum*. This diminutive, though powerful weapon, the lancet, seems already to have fallen into disuse with very many. Observation confirms this, as well as the little volume, lately distributed among our class, by the kindness of its author.

Bloodletting accomplishes its end in inflammatory diseases, *first*, in a mechanical manner, by lessening the force of the current of blood, thus guarding against the danger of its too frequent and forcible impulse on the seat of inflammation; and, *secondly*, by its sedative influence on the nervous system, whose excitability is increased in proportion to the extent of the inflammation. Now *veratrum viride* accomplishes both these in a safer, and more satisfactory manner. Let us compare their effects still more closely. The mechanical effects of bloodletting are gained at the expense of a portion of the life-current of the body, the immediate advantages of which are but temporary, since the amount and force of the blood may soon

become as great as before. The same advantages are attained by the veratrum viride, but in a different manner. By its influence, the heart's action is simply held in check, the force of the circulation being reduced to its natural standard, while every drop of blood is preserved, so that, as soon as the fever is over, a quicker and more perfect convalescence is ensured to the patient.

The sedative effects of bloodletting are too often merely temporary, and in those whose nervous system is easily impressed, often followed by a reaction so great as to produce an increase of organic action, even to a greater degree than before the operation. In such cases, a repetition of the bleeding would be extremely hazardous, and might only serve to increase the difficulty. Even when bleeding can be well endured, it is a remedy that cannot be persisted in. If it conquers, it must do so at a blow, which, though a victory for the time, yet in the end may completely defeat the object in view. On the other hand, the sedative effect of the veratrum viride is free from the danger of too great reaction, since we may continue its administration for a long period with safety.*

2. *Effect on the Respiration.*—This needs but a passing notice. The number of respirations per minute is reduced, although the ratio of its frequency, as compared with that of the pulse, is not always preserved with precise uniformity.

3. When the dose is sufficiently large, or when frequently repeated, nausea and vomiting soon follow. A sense of coldness is felt by the patient, together with weakness in the muscles, and inability to control their movements. This latter effect, together with increase of the secretions, is sometimes produced without the vomiting, thus showing that it is not the depressing influence of the nausea alone which produces these symptoms. When vomiting follows, the effects of the drug are most striking, the number of pulsations being reduced one half, and even more. The body is covered with cool perspiration, often attended with a tingling and benumbed sensation of the limbs. Dilatation of the pupil, faintness, vertigo, and dimness of vision, give further evidence of its power. The prostration at this stage may become so great as to alarm those who are unacquainted with its action. But I have been unable to find any fatal case of poisoning recorded among the numerous instances of its use. In fact, its poisonous effect seems to be prevented, in large doses, by prompt emesis. Possibly, if a very large dose were given, enough might be absorbed to overwhelm the action of the pneumogastric nerves and thus prevent vomiting, as in the case of antimony. This yet remains to be proved.

The danger, if any exists, of an overdose being given by an inexperienced nurse, through mistake in giving the tincture in drops, may be easily avoided by mixing it with water, or any convenient vehicle, in such proportion that a teaspoonful may represent the required

* Dr. P. D. L. Baker, of Alabama, in *Southern Med. & Surg. Journal*.

dose. The depressing effects are readily controlled by combining it with opium, or by giving alcoholic stimulants, as brandy or wine.

4. The secretions are also somewhat stimulated, especially those of the kidneys and skin. Yet we should not think of administering it solely as a diuretic or diaphoretic, when we have others of so much greater value.

In order to determine, for my own satisfaction, the effects of the drug on the system, I took the tincture at two different times, once on January 16, 1862, and again about a fortnight later. I will give the results of one of these trials, as an example of its physiological effects. February 1, 1862.—Now in good bodily health. Weight, 145. Pulse naturally not far from 75, when sitting down. At 2, P.M., after a light meal, took seven drops of tincture of *veratrum viride*, pulse at that moment being 70, respiration 16. In one hour, pulse was at 65. At 4, P.M., took seven drops again, pulse at 60. At 6, P.M., took four drops, pulse at 50. From 6 to 7, P.M., there was some nausea, but not much. Feeling of weakness throughout the body. At 8, P.M., took six drops. Half an hour afterwards, pulse was at 46 per minute. Considerable nausea, no vomiting, but an indescribable feeling of lassitude and weakness in limbs. Retired to bed at 9½, P.M. Noticed no sensible increase of perspiration, and slept soundly till morning.

In order to determine whether there were any marked diuretic effects, I had, for one week previous to this trial, kept an accurate record of the excretion from the kidneys, with the amount and specific gravity of each excretion, in order to obtain an average, with which to compare the result, while under the influence of the *veratrum*. The result, tabulated, is as follows:—

Date.	Amount in fluid ounces.	Specific gravity.
January 22, 1862.	29.	1024
" 23, "	30.5	1023
" 24, "	31.	1024.5
" 25, "	18.5	1028.5
" 26, "	20.	1025.5
" 27, "	23.5	1025
" 28, "	26.	1022
Total,	178.5	7172.5
Divided by 7,	25.5	1024.6*

The greatest amount at any one time was 18 ounces; the least, 2½. The highest specific gravity at any time was 1034. Lowest, 1020. Reactions were generally acid, occasionally neutral at noon. Once alkaline.

Under the influence of *veratrum viride*, the same observations were made through twenty-four hours after taking the first dose. The amount excreted during those twenty-four hours was 35 ounces. Specific gravity, 1020. The amount of ingesta taken each day was

* This average specific gravity, 1024.6, is only approximate, and therefore not perfectly correct, since the daily amounts vary.

nearly the same in quantity and quality. Thus, we see that there is a considerable increase in the amount and a corresponding decrease in the specific gravity of the excretion; the decrease in solid constituents probably being relative, and not absolute.

[To be continued.]

ON THE PREVENTION OF CONSUMPTION.

[Communicated for the Boston Medical and Surgical Journal.]

MESSRS. EDITORS,—The oldest permanent member of the American Medical Association ought to do his best to promote the health of mankind and the prevention and cure of their diseases; such being the object of that benevolent institution. At the same time, in offering anything for your JOURNAL, it ought to be remembered that its first institutors and editors were such medical magnates as Doctors WARREN, CHANNING and WARE.

My own ardent and unceasing attention, for a number of years past, has been directed towards the prevention and treatment of consumption—that greatest of all the outlets of human existence—not excepting cholera, yellow fever, typhoid fevers, scarlet fever, and even plague. Great Britain is a consumptive region; and wherever her sons have emigrated, consumption has been carried. Witness the United States, Canada, Malta, Gibraltar, Bermuda, and the East as well as the West Indies. It was unknown in the New World, till brought from the Old World; the aborigines not having it till fetched hither by the British, although, since their intercourse, cases have often appeared among them, which goes to confirm the Italian opinion, said to be universal at Rome, that the disease is contagious. I think that it is contingently so here, myself. It is certainly hereditary nationally, as well as individually, to the British and their descendants.

I have assiduously sought out the means, modes and methods, by which the disease, when seated or confirmed, has been cured. That such cures ever occur, has been by some eminent men denied; but the weight of reliable evidence and irrefutable testimony is against them; witness Sydenham, Dr. Rush, Dr. Parr, Prof. Bourne of Oxford, Dr. Good, Marshall Hall, Prof. Bennett, Dr. Darwin, Dr. Tully, Dr. Beddoes, Sir Charles Scudamore, Dr. Horace Green, Surgeon Brereton, Drs. Gold, Cartwright, Coxe, Morton, Mudge, Spilsburgh, and others I need not mention. Still I must not omit the notice of one hundred and seventy-six cases of seated phthisis completely cured, or at any rate recovered of, in four years, in one single hospital in Italy! From all these unquestionable authorities, I have the histories and modes of treatment in a MS. before me, but at the present time it is not my purpose to submit them here, as they would occupy a small volume. Still I would remark of said MS., that I have proposed to throw aside, disuse, and repudiate, all other modes of treatment than those, by some one of which the disease,

when seated, has been recovered of or cured. This indeed seems so manifestly proper, as almost to be presumed self-evident; and as the most eligible of all the courses that could be adopted or possibly pursued, or proposed. Yet, remember that an ounce of prevention is worth a pound of cure; and to prevent a disease, of which more than 55,000 persons die in Great Britain annually, and nearly a proportional number in this country (as there died in Massachusetts alone no less than 3,527, out of a population of 994,514, in one year), is the grand desideratum.

Fashion is insane, and destroys its followers. The custom of leaving the most vital of all the vital parts insufficiently guarded and protected from cold, has sent millions upon millions to premature and untimely graves; yet it still continues the fashion where consumption prevails. The most vital of all the vital parts are the contents of the back of the head, back of the neck, throat, and upper part of the thorax; the upper parts of the lungs ever being the parts where tubercles first appear, as well as where ulceration begins and purulent matter is first of all formed—where, in fact and in deed, death commences its work, as outwardly indicated by cough, hectic fever, diarrhœa, night-sweats and swelled feet. Bill Poole, of New York, lived two weeks with a pistol-ball in his heart, and there is a reliable statement of another person who lived a still longer time after an accident of the same kind. A man of Vermont had an iron bolt driven through his brain years ago, and is still alive; but a slight puncture—a pin-prick—into the spinal marrow of the neck, has uniformly been instantly fatal, even in beasts.

Warmly dressing the breast and neck, have not been enough, and cannot be too much, insisted on. The English fashion of keeping those parts thinly covered, as only with gauze, lace, ruffles, silks, satins and gew-gaws, should be protested against by every professional man. There is no better possible method of guarding the person and protecting the human system from taking cold, and of shortening a cold when taken, than by doubly and trebly fortifying the parts in question by folds of flannel or skins of rabbits. Would you steer clear of catarrh, influenza and consumption, stick a pin here, and remember, that one who is eighty-five years old, and has been in practice over sixty years, gives the advice contained in this paper as the very best method of doing it. I have before inculcated this admonition, but I now repeat it, in words of truth and soberness. It is a picture, to my sight, of a corpse, a coffin and a grave, to see young ladies abroad with naked necks and shoulders, and this not only in the cold of winter, but even in summer weather, and mild seasons of the year; for a cold caught in warm weather, strange as is the fact, more frequently lays the foundation of consumption than one caught in winter.

Now in confirmation of the prominent points advocated in this paper, I will appeal to a first-rate authority, which throws other high names into the shade, because he had more time, tact, and talent

than others, in the matter in view—Sir George Lefevre, M.D., who went physician to the British Embassy to St. Petersburg. It is too well known to need repetition, that Russia is free, or almost entirely free, from phthisis pulmonalis. This has been imputed to the steady temperature of the climate and the unchanging state and little variability of the different seasons; positions which Sir George, who remained there long enough to know, peremptorily contradicts. He tells us that the weather is as changeable in the capital of Russia as in any other capital city of Europe. Another mistake or two this lucid writer corrects; one is, that the inhabitants of Russia become so hardened to its climate that they do not feel the cold as others do who come there from more southern countries. This is utterly incorrect; for, let the Russian live in England and dress as the English do, and he would be entirely uncomfortable in the English winter, and complain bitterly of the cold. The true solution of the matter is, that the Russian population are clothed in skins which keep out the cold, keep in the heat, and keep off consumption.

In lines of light and power which cannot die out from the memory, let us cherish these truths, and not causelessly nor carelessly cease trying to diminish the greatest agent that fills our coffins and opens our graves. I can devise no better New Year's gift than this. And were I under oath to suggest that which I thought most conducive to prevent the direst of all diseases, I could only point to the above hints, rules, and the remedies suggested.

Lebanon, Ct., Jan. 1, 1862.

JOSEPH COMSTOCK, M.D.

DR. COALE'S ESSAY ON ANEURISM.

[Concluded from page 172.]

As perfect a case as any for typifying the disease, is that of Dr. Carnochan. He also goes into the literary history of the disease, and still more minutely into its pathological characteristics, specifying clearly and distinctly its differences from other affections of the bone, marked by great vascularity, medullary sarcoma, encephaloid, &c. &c. He says:—"The disease once developed, a cavity is formed in the interior of the bone at the expense of the cancellous structure, and this apparent loss of substance continues as the disease advances, until the extremity of the bone enlarges and becomes expanded into a laminated shell." In its advanced stages pulsations can be distinctly felt in it, and though not constant, in some cases the *bruit de soufflet* is very distinct. The growth of the disease is not rapid. Its termination, if left to itself, would be undoubtedly in ulceration, laceration, and hæmorrhage. The cure, so far, seems to be only found in amputation.

Dr. Carnochan believes that the initiatory morbid changes of structure are to be looked for in the vascular tissue of the bone, and this, in his opinion, "consists in an earthy calcareous and atheroma-

tous degeneration of the tunics of all the arteries by which the cancelli of the bone at the seat of the disease are supplied. The diagnosis of the disease is, in its early stages, involved in obscurity. The disease with which it is most likely to be confounded is encephaloid degeneration. There are many symptoms common to the two diseases—the swelling, throbbing, crepitation, elasticity, and the sharp lancinating pain. The lessening of the aneurism by pressure upon the supplying arterial trunks, gives the best sign for distinguishing it from the malignant affection. Scrofulous enlargement of the joint simulates it somewhat, but the appearance of the patient in many cases will mark the difference, and the history of the case discloses other decided dissimilarities.

The disease must be looked upon as a serious one. The remedies for it have not been very successful, save that destructive one, so far as the limb is concerned, amputation. Dupuytren, in 1819, tied the artery, since which it has been done four times—once by Lallemand, twice by Roux, and once by Nélaton. Three of these cases were decidedly unsuccessful; the disease returned, and amputation was resorted to. Of the two other cases, we have no account sufficiently late to permit us to call them complete. Dr. Carnochan's case must be classed with the former. The patient was a woman of 35. Sixteen months before her admission to the hospital, she received a fall on her knee. Eight months afterwards she felt uneasy there, and had pain and tumefaction. The symptoms increased, until the thigh presented a tumor commencing at its lower third and extending to the patella. It was, by the careful diagnosis of Dr. Carnochan, soon decided to be a case of osteo-aneurism. Compression was tried, but could not be borne. A ligature was applied, which allayed the pain, and from June 19 to the first week in September she seemed doing well. On the 16th of that month, she returned to the hospital, with every aggravation of the affection, and ten days afterwards the limb was removed. Examining the limb, it was found that the sac, externally, was formed, for the most part, of the periosteum of the condyle. The osseous tissue had been absorbed greatly, leaving lamina, at intervals, between which the sac had expanded itself. The internal surface of the portion of the sac, formed by the expanded condyles, was irregular and rough. The interior of the sac was filled by lamina of fibrine, and exhibited no signs of malignant growth when subjected to the microscope. The patient recovered entirely, the history continuing to the end of December.

Such is the exposition of osteo-aneurism afforded us by the present state of surgical science. We confess the picture is not a perfect one. There are certain points upon which descriptions given are not sufficiently precise. Nevertheless, we think that the preponderance of testimony is decidedly in favor of its being a distinct, non-malignant disease, and, in its essentials, not differing from that affection which we have described as aneurism, but only modified by

the circumstance of the diseased artery being surrounded by bone. We trust that future observations will soon clear up all doubtful points as to the nature of the disease, and, whatever may be the result, we feel we have but covered the ground appointed in thus giving it a place in our essay.

ANEURISMAL VARIX.

This term is applied to that species of traumatic aneurism in which a communication is established between an artery and a vein, and a large portion of the jet from the former is thrown into the latter. The most frequent cause of the affection is the transfixion of the vein and puncture of the artery beneath it, in the operation of venesection. In some cases the result is simply a communication between the two vessels. The vein becomes dilated, next assumes a tortuous form, and, later, communicates to other collateral veins these peculiarities, so that the entire limb may present a mass of distended veins, pulsating with more or less violence from the arterial blood thrown into it.

To this form of the affection it has been proposed by some to confine the term aneurismal varix, reserving that of varicose aneurism to those cases where, besides the communication between the vessels, and the consequences just described, there is also a distinct sac formed. This sac may assume one of three situations. In some instances it forms between the artery and vein. In others, it projects above the vein, the current passing across that vessel, and forcing itself into the cellular tissue beyond; while in one instance, at least, that we have met with, the artery was transfixed as well as the vein, and the tumor was formed beyond it. In this last case there must have been some abnormal distribution of the vessels.

Having thus referred to the mechanical peculiarities of the disease, we do not think it necessary to bestow much more time upon it. The vein is not otherwise altered than distended. The sac, if formed, partakes of all the characteristics of the sac in ordinary false or traumatic aneurism. The disease is gradual in its progress—the varicose condition of the veins increasing at a slow rate, and more and more of them in time becoming affected, until all those belonging to the limb are involved. A remedy for the disease has been found in compression. This, when the affection is at the bend of the elbow, has been made effectual by flexion of the arm. The injection of the per chloride of iron has succeeded in one case. These failing, the ligature is our resource. It must be applied by cutting down directly to the opening into the artery, and applying a ligature above and below it. No other course can be relied upon. Where the artery has been tied above, the collateral branches have continued the circulation sufficiently to feed the disease. When neglected too long, the ligature does not avail, and amputation is the only relief from the distension, weight, pain, uselessness and liability to gangrene, of the affected limb. With what has gone before, we

consider this a sufficient exposition of the disease and of its remedies.

APPENDIX.

What we said of the disease at times called aneurism of the heart, we would not alter—it is perfectly correct as far as that disease goes—but our later researches induce us to mention, at least, an affection which may be termed more correctly aneurism of the heart. It consists of a separation of the muscular fibres of that organ, so that a sac, consisting of cellular tissue, lined by the continuous inner tunic of the heart, is formed. Such a sac may project from any portion of the heart, and the cases thus far analyzed are too few in number to tell us confidently what cavity of the heart is most subject to this affection. The author that enlightens us most on the subject is Breschet, who has written a monogram upon it.*

The first case he quotes from Walther, of a merchant, the posterior ventricle of whose heart was elongated and terminated in a large sac. Baillie mentions that he has seen a cyst projecting from the summit of the left ventricle, the size of a small orange. Zanini gives a case occurring in a gondolier; and so Bertan, Rostan, Cruveilhier, Berard and others, relate cases of an affection which is evidently the same, viz., a sac projecting from some part of one of the ventricles. Of course there is no remedy for this disease, though we have met with one case of spontaneous cure of it, related by Dr. Wilkes in the *Medical Times and Gazette*. The patient was aged 52, and died of phthisis. A bony sac was found attached to the left ventricle, but filled up, and solid.

We trust this brief notice will suffice for a disease of which we scarcely know the symptoms that indicate it during life; for which we have no remedy should it be recognized, and of which the only termination is death, excepting in such a rare case as the abovementioned, in which a spontaneous cure occurs.

Army Medical Intelligence.

HILTON HEAD, S. C., MARCH 11th, 1862.

To the Surgeon-General.

DEAR SIR,—I have, within the last few days, made my monthly report to Dr. Cooper, the Medical Director for this Division of the Army, and I now avail myself of the excuse for "apparent idleness" furnished by a very rainy day, to report myself again to you.

It is now over two weeks since we arrived here. Embarking on board the steamer "Ericsson" at New York on the 14th of February, we came in sight of Port Royal on the 21st—prolonging a voyage, generally of but a few days, to a full week. The weather was sufficiently pleasant most of the way, and, with the exception of seasickness, nothing worthy of notice occurred.

* Recherches et Observations sur l'Aneurisme Fausse Consécutive du Cœur, et sur l'Aneurisme Vrai des Artères. No date, but we believe it to be about the year 1829.

On Saturday, the 22d ult., the regiment landed. The facilities for landing the baggage, however, were so poor that it was many days before much of it could be got ashore, and some of it is awaited even at the present day. A slightly shelving, sandy beach prevented the near approach of vessels to the shore, while the wharf, built since the arrival of the expedition, was occupied by vessels loading and unloading—and of those who had the management of things, i. e. the Post Officials, most of them seemed indifferent as to whether anything was got ashore or not.

At present, the health of the regiment is pretty good. The weather, at first *very* warm, is now generally warm and pleasant, although we have had some weather unusually cold for South Carolina, even to the extent, one night, of freezing quite hard. The location is sufficiently healthy. There are some good plantations on the Island, covered with neglected cotton growth, and flowers are in bloom within a short distance of us; but, where we are now stationed, within gunshot of Fort Welles (originally Fort Walker), the sand is deep, and the winds, which blow violently every afternoon, whirl it about, often so as to render the customary drills impracticable, or rather, perhaps, very disagreeable.

Two battalions of the 1st Mass. Cavalry are encamped along side of us, and Col. Williams is in command of a Brigade formed of the 6th Connecticut, the 28th Mass. and his own regiment. His men are in an excellent state of discipline; and in this, as well as in general health, cleanliness of camp, and general good order, Dr. Cooper, the Medical Director, allows that no regiment in the army can surpass it.

As far as sanitary regulations are concerned, all the officers of the regiment, from the Colonel down to the lowest, are disposed to enforce them fully, and the health of the regiment compares very favorably with that of any other here.

When leaving Governor's Island, I was obliged to leave five of the regiment at the post hospital there. Two were convalescing from rheumatic fever and general anasarca respectively, and one had fractured a fibula a few days previously to our departure.

Yours, &c.,

P. A. O'CONNELL,

Surgeon 28th Regiment Mass. Vols.

THE following is from a letter from Surgeon Derby of the 23d Regiment, Mass. Vols. :—

{ HOUSE NEAR BATTLE GROUND, 4 MILES FROM
NEWBERN, N. C., MARCH 18th, 1862.

I am sitting at a table, in front of a wood-fire, one secesh dip illuminating the room, which is full of wounded men—one behind me, with a wound through the chest, groaning all the time, while soldier nurses are picking their way about the floor, wetting the bandages, and giving water, gruel and broth to such as I direct. I am interrupted every five minutes. My clothes have not been off since the fight on Friday. While the army are rejoicing at Newbern, the surgeons are keeping watch over the wounded day and night—looking out for bleeding wounds, and keeping the sparks alive in many who will, we hope and trust, yet be strong and well.

Thursday we landed, marched through mud and water (black pudding) seven miles to near this point. It was weary work, and a good

many fell out. Turned into the woods, built fires, laid down in a hard rain on the soggy ground, with only rubber blanket, and slept. At daylight up and away; no breakfast, but hard bread and cold salt meat. Soon, as at Roanoke, the musketry was heard in the front—"Double quick, Sons of Gideon." In ten minutes more the 23d were in a hail-storm. I took my position, with Dr. Stone, and a corps of ten or twelve men, behind a clump of three trees of moderate size. I was nearest the fight, as at Roanoke, and though often solicited to go farther off, declined so to do; though if our party had been struck, I should perhaps have regretted it. Why they were not, seems strange, for it afterwards appeared that we were exactly in range of the middle of the breastwork. For two hours there was a rattle, and whiz, and crash of missiles over and on either side of us. Cannon balls and shells flew past us, I verily believe, once a minute. Trees were felled all about us by cannon balls. One struck the ground within three feet of us. Another crashed into the branches overhead, and threw the bark and splinters into the wound in which I was tying arteries. Gen. Foster's position was at the same place. On several occasions he called a soldier to his side, and commanded him to point his musket at men who were skulking to the rear, telling them to return or they were dead men. They preferred to return—at least a little way. I remember one fellow, on hands and knees, howling as with pain, passing my station. I stopped him, and turned him over. He was white with terror, and that was all. It was a perfect hail-storm. For myself, I was busy from the first moment—extracting balls, applying bandages and styptics. In ten or fifteen minutes, Capt. Sawyer, of the 23d, was brought in, his leg carried away by a round shot. I amputated the thigh on the spot. Then a man, with arm dangling by shreds of flesh; amputated arm near shoulder. This was done without other assistance than my hospital cook, for, in obedience to orders from the Brigade Surgeon, I had sent Dr. Stone to him. Then many others were brought. The sum of my day's work was, in capital operations:—amputation of the thigh, 3; of the leg, 1; of the arm, 1; at shoulder-joint, 1. Next day another arm. These were all cases where death was inevitable without resort to amputation. They are now all seven in this room, and all doing well—even the latter, which was formidable. That they will all recover finally, I do not and cannot expect. It is against all statistics. I dread the removal of these cases to Newbern. It must be done, however, very soon.

March 21st.—My sick have all been removed safely. I am now able to change my clothes—covered with blood and mud—which have been on six days.

OUR correspondent, Dr. G. B. Willson, writes, in pencil, from the advancing Army of the Potomac, under date of "Camp Hamilton, two miles from Fortress Monroe, March 24th, 1862," that no facilities were then enjoyed for correspondence, the only person in the regiment in possession of pen and ink being the Adjutant, and no baggage being allowed him beyond what could be packed in an ordinary valise. He furnishes, however, besides a reference to matters not intended for publication, some interesting items respecting the health of the troops under the use of impure water and peculiar exposures. After speaking of the departure of the regiment from Fort Michigan, for Alexandria, on the 14th, he says:—

"After embarkation, at 10 A.M., on the 17th, we lay between Washington and Alexandria at anchor till afternoon of the 18th. The water of the Potomac, always muddy and dirty, is at this point pretty well mixed with the drainings of sewers and filth of every kind from Washington, which at the present time, between citizens and other civilians and soldiers, must have a population of over 100,000. This was the only water our men had to drink from the time we embarked, and in less than twelve hours it began to show its effect in diarrhœa and dysentery. Between that time and our landing at Fortress Monroe, I think I must have prescribed for as many as 150 cases of diarrhœa and dysentery. And some thirty or more of our men are yet suffering from the same complaints, contracted or first developed on the boat. Since coming here we have had to lie on the ground, without anything but oil-cloths under us and without fires, and the weather being damp and chilly and near half the time rainy, we have a great many new cases of coughs and colds, and some rheumatism." * * * "I shall have but little chance to write after this, but if I find anything really valuable I shall endeavor to let you have it. I do not think it right of contributors to expect you or other journalists to publish their reports of surgical cases without regard to *selection*. It is but wasting paper to report every case that occurs, even if it can be done in a few lines."

Bibliographical Notices.

Amputation of the Cervix Uteri. By J. MARION SIMS, M.D., Surgeon to the Woman's Hospital, New York. [Extracted from the Transactions of the Medical Society of the State of New York, 1861.] New York, 1861. 8vo. Pp. 16.

THE author of this pamphlet has a two-fold object in view;—1st, to recommend the operation of amputation of the cervix uteri for various non-malignant affections of the part seriously affecting the general health or comfort of the patient, which are incurable by other means; 2dly, to describe a new method of operation, whereby the process of healing may be accomplished in a few days, instead of as many weeks. This method is as follows:—The portion to be removed is either cut squarely off, with scissors; or the cervix is first split laterally, and each half then removed separately. The mucous membrane from the stump is then drawn forward, and secured over the raw surface by means of silver wire sutures, from four to six in number; exactly as the skin is made to cover the stump of an amputated limb. It is not necessary to remove the whole cervix, even with the vaginal insertion. If half an inch of it be left, it will disappear by the process of absorption, just as the pedicle of a fibrous polypus of the uterus, or a considerable portion of a tonsil, will be absorbed after the remainder has been removed. There is no hæmorrhage, and scarcely any constitutional disturbance; the patient recovers from the operation in a few days. Two good engravings illustrate the method of operating.

How far the operation is effectual in curing permanently the subjects of these painful and obstinate diseases, is not apparent from Dr. Sims's paper, since the first case does not date back further than No-

vember, 1860; but one thing is certain—the patients were all greatly improved, and continued well so long as heard from. There is no reason why amputation of the cervix uteri for disease should not be as successful as the same operation in other parts of the body. We commend it to the attention of those who are interested in this branch of medical practice.

We cannot forbear to remark that the modest manner in which the author speaks of his achievements, in this paper, forms an agreeable contrast to the style in which his previous publications are written.

M.

Anatomy, Descriptive and Surgical. By HENRY GRAY, F.R.S., F.R.C.S., Lecturer on Anatomy at St. George's Hospital Medical School. Second American from the revised and enlarged London Edition, with three hundred and ninety-five engravings on wood. Philadelphia: Blanchard & Lea. 1862. 8vo. Pp. 816.

A SECOND American edition of Mr. Gray's comprehensive treatise on anatomy, is perhaps the best evidence of its adaptedness to the wants of the student. In the various departments of anatomical study, the book is remarkably full and largely illustrated by accurately lettered wood engravings. In the description of the anatomy of the bones the articulations are shown on a new plan; and the author has adopted a method by which the hitherto complicated account of the development of the bones is made more simple. In the section upon the muscles and fasciæ, a series of illustrations, showing the lines of incision necessary in the dissection of the muscles of each region, as well as the portion of the work devoted to surgical anatomy, which is also carefully illustrated, renders the book peculiarly valuable as a text-book to the student of medicine. The author has also wisely introduced a brief account of the microscopical anatomy of some of the tissues and of the various organs, which much enhances the value of the book. On the whole, the publication of Mr. Gray's work just at this time is quite *apropos*, and we doubt not it will meet with a ready sale. It is printed in the usual style of Blanchard & Lea's publications, to which enterprising firm the medical profession is so much indebted.

MEDICAL COMMENCEMENTS.—At the annual commencement of the Medical Department of the University of Pennsylvania, on the 13th ult., the degree of Doctor of Medicine was conferred on ninety-one gentlemen. Unlike the graduates of former years, most of them belong to the middle States—only two coming from States which have seceded. The valedictory address was delivered by Joseph Leidy, M.D., Prof. of Anatomy.—The annual commencement of the Philadelphia College of Pharmacy was held last month, when the degree of Graduate of Pharmacy was conferred on thirty-one gentlemen. The valedictory address was delivered by Prof. Robert Bridges, M.D., and a beautiful oil painting of Dr. Jackson, of the University of Pennsylvania, was presented to the College by the second graduating class of the institution.—At the annual commencement of the Starling Medical College, Columbus, Ohio, in February, the degree of M.D. was conferred on eleven gentlemen. Prof. S. Loving delivered the valedictory.

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

BOSTON: THURSDAY, APRIL 3, 1862.

CITY HOSPITAL AND DR. GREEN'S BOOK ON HOSPITALS.—We promised, a week or two since, to notice Dr. Green's book, and to comment upon it, together with some other publications on like subjects, and give our views upon hospitals, generally and particularly.

Dr. Green's book, or pamphlet, consists of sixty-six pages, besides two photographed elevations of the proposed building and three wood-cut plans. But brief as this seems to be, we must say we have seldom seen the idea of a perfect hospital so thoroughly and completely carried out as by Dr. Green in these few pages. He has evidently considered the subject systematically and minutely, and has entirely mastered the essential requirements of the case. With but two or three exceptions, his ideal picture of a complete hospital is faultless. He begins by mentioning the common defects of a hospital, and what changes should be made in the ordinary type of these structures to remedy them. The principal one is that already suggested by Dr. Clark—though not claimed, of course, as original—of having the Hospital built in separate pavilions, each containing two or more wards, and all the essentials in the way of bath-rooms, water-closets, kitchens and nurses' room, of a separate and distinct hospital. This is as it should be. The more thoroughly we individualize each patient in a hospital—the more nearly we furnish that patient with the peculiar and distinctive comforts required by his particular case—the more perfectly and completely do we meet the demands that disease and suffering have made upon humanity. This scarce needs illustration as a general proposition, yet it has only been recognized within the last twenty years or so, and we think that its full force is still unfelt; nor has the application of it been carried out as thoroughly and efficiently as we hope in time to see it.

Until comparatively lately, immediate economy in the current expenses of these institutions seems to have been far too exclusively considered by their devisors. Urged by this feeling, cheap methods of heating, of cooking, of nourishing, &c., have been contrived, and it has been found that the average expense of each individual for these various items lessened as the number of individuals increased; consequently the size of the institutions was increased. It cost very little more to heat a large ward than to heat one of half the size; wards were therefore made large, irrespective of the purposes to which they were to be devoted, and, as a natural consequence, patients and diseases of the most incongruous and unfit character were herded together. The fact that this is still done, we have heard asserted even at the present day, as a strong charge against some of the so called benevolent Institutions of Massachusetts; and if it is so, we can fully realize the grim sarcasm that represents a poor female who, upon mentioning she came from the public Institution at Tewksbury, Mass., was told by the Janitor of Gehenna that she must go back, as there was no place under his charge fit for her. Her piteous entreaties thereupon are described to have been very urgent for a revision

of his decision. And so with the kind of diet and its preparation for use, as carried out in too many of our large eleemosynary institutions, we find particular adaptiveness to the necessities of any one case, too much absorbed in the attempt to make one pound of beef or mutton, at a certain price, yield its full per centage of nutrient matter to a given number of individuals. And still further, when we look at the size of the institution in some instances, and divide the number of patients it receives by the number of medical men in care of it, most of whom, as a general rule, are already in large private practice, we must fear that the reported conversation between one of these chiefs and his assistant, though overdrawn for the masses, might still be true as applied to the treatment of some individual patients. "How shall I treat the patients in the hospital to-day?" "What was the treatment I gave yesterday?" "You ordered me to phlebotomize the first ward and to jalap the second." "Then to-day you can jalap the first ward and phlebotomize the second."

The remedy for this is the division of the General Hospital into separate pavilions—or, to use the proper term, hospitals—each as far as possible independent in itself; that is, containing all the necessary conveniences for its own efficiency.

NEW YORK ACADEMY OF MEDICINE.—At a stated meeting of the Academy held last evening, the following preamble and resolutions were presented by Dr. A. H. Stevens, and unanimously adopted:—

Whereas, during the present unhappy war many of our professional brethren in service among the combatants have risked their lives, or gone into voluntary captivity, rather than desert their sick and wounded, and have exercised their skill alike on friend and foe: therefore,

Be it resolved, That in such conduct this Academy recognizes the true spirit which should ever animate the ministers of humanity, and in testimony whereof,

It further resolves, To welcome to its sittings those who have acted under these self-sacrificing and generous impulses.

On motion of Dr. J. H. Griscom, the Secretary was directed to send a copy of the above to each medical journal in the country.

J. H. HINTON, *Rec. Secretary*,

New York, March 20th, 1862.

41 West 32d Street.

SPECIMENS OF MATERIA MEDICA FOR THE LONDON EXHIBITION.—In the November issue of this Journal our readers were informed of the intention of the Philadelphia College of Pharmacy to make an effort to get together a collection of the *materia medica* of the United States for deposition in the Great Exhibition at London, in June, 1862. We have recently had the pleasure of inspecting the collection, now nearly ready (Feb. 16), and have been agreeably surprised at its extent in view of the short notice and unfavorable season that has elapsed since the appointment of the committee to this service. The appearance of the collection is much enhanced in beauty and completeness by the excellent glass-ware in which it is contained, which is the product of the works of the New England Glass Company. Should no mishap occur to the collection, it will certainly be an acceptable offering to the medical and pharmaceutical department of the Exhibition, and will afford a rare opportunity to study very many products of our soil that heretofore have only been known there, if at all, through the pages of the books and journals of the United States. The recent adverse action of Congress has thrown the College on its own resources to forward the collection to London.—*Am. Jour. Phar.*

THE following extract from the Paris correspondence of the *British American Journal* mentions a curious discovery recently made, showing the manner in which chemistry can be applied to archæology:—

"Some time ago, two human skeletons were found in stone coffins at Vertheuil, in the department of Seine at Oise. The bones, though brittle, were in a perfect state of preservation, and everything tended to show that these skeletons had been buried many centuries ago. M. Conerbe, a chemist of some note, having obtained the shoulder-blade of one of these relics of past ages, subjected it to analysis, and found that it contained only ten per cent. of organic matter, besides the usual mineral substances of which bones are composed. Now as fresh bones contain 33 per cent. of organic matter, it follows that the bones of the skeletons at Vertheuil had lost 23 per cent. of organic substances. From this fact, M. Conerbe has endeavored to deduce the age of the bones he has examined. M. Vogelsong, he observes, has found that bones which had been buried 1,100 years scarcely contained any organic matter at all; whence M. Conerbe concludes that three per cent. of organic substance disappears every hundred years. Applying this rule to the bones found in the earth at Vertheuil, he fixes the year 1110 as the probable period of the inhumation of these bodies—a conclusion which tallies with the archæological observations made by M. Léon Drouin, of the Academy of Bordeaux. Hence M. Conerbe's rule is, to divide by three the loss of organic matter ascertained in a bone, the quotient will then represent its age in centuries. This rule, M. Conerbe admits, may be liable to considerable modifications from various circumstances; thus, for instance, bones must be differently affected according as they are exposed to the open air, or inhumed in a damp or dry soil."

ADVANTAGES OF EARLY VACCINATION.—The annual report of the Vaccine Committee was read at a recent meeting of the French Academy, in which the question of early vaccination was fully discussed. M. Depaul, the reporter, states, that in spite of the opposition raised to the vaccination of new-born children, the researches of the committee tend to show that this operation is not more dangerous in very early life than at the second or third month. In private practice, where the chances of variolous infection are much less than in the wards of an hospital, vaccination may, as a general rule, be delayed; but in the latter case such delays are dangerous, for, from one hour to another, cases of smallpox may be admitted. "If all children," continues M. Depaul, "were vaccinated within the first two or three days after birth, smallpox, already rare now in comparison with what it was formerly, would, we are convinced, completely disappear. This result has already been obtained by certain zealous vaccinators in the provinces. Such a rule should be all the more stringent in the case of Foundling Hospitals, as a means of diminishing the already too great mortality, and of preventing the spread of infection in the provinces by means of children in whom vaccination has either been ill-done or altogether neglected." In the subsequent discussion, M. Robert suggested that very possibly the dangers (and among them erysipelas) alleged as incident to early vaccination depended upon the plurality of incisions made for the introduction of lymph.

CASE OF NUMEROUS FRACTURES, WITH RECOVERY.—Frederick Fry, F.R.C.S., Surgeon of the West Kent Infirmary, Maidstone, Eng., fur-

nishes to the London *Lancet* the following interesting case of recovery after numerous fractures :

A laboring man, named Oxenbridge, employed under the late Lord Romney, was working in a quarry in Mote-park, his lordship's residence, when the upper part of the quarry fell, and Oxenbridge was buried in the ruins. When dug out, he was brought to the West Kent Infirmary, and I saw him two hours after the accident. On examination, three ribs on the left side were found fractured; the humerus, radius and ulna, on the same side, at the elbow-joint, were smashed, feeling like a bag of marbles, but the skin was entire; there was a transverse fracture of both patellæ, a fracture of the left tibia and fibula, and a fracture of the right fibula—eleven bones fractured. He was for four days in all but a lifeless condition, but gradually rallied. Four weeks after the accident, I amputated the left arm at the surgical neck, and eleven weeks after the accident he left the infirmary well. I met him about twelve months since, and he was able to walk and work; excepting the loss of his arm, as well as ever.

PROBABLE DURATION OF LIFE IN PHTHISICAL PERSONS.—With regard to the probable duration of life of such persons as are doomed to die of phthisis, Dr. Brückner has deduced from his statistical investigations the following conclusions:—In a person of phthisical constitution, the danger of becoming affected with consumption increases up to the twentieth year, when it has reached its highest point. The danger may be reckoned as equal to 21.05 years of life, so that such a person at the age of 23 years has the same expectancy of life as a healthy individual at 44. From the thirtieth year, when it may be reckoned as equivalent to 17.42 years of life, the danger goes on diminishing. In the 40th year it is equal to 13.94 years, in the fiftieth to 7.23 only. In the seventieth year the danger is at an end, a person of phthisical constitution having the same prospects of life as any other individual of that age. Under similar circumstances, phthisical persons of the female sex die more rapidly and at an earlier age than males. The female sex reaches some years earlier than the male its highest point of mortality from phthisis.

If a person is actually affected with phthisis, his probable duration of life is 21 months and 9 days. A pregnant woman, during the duration of her pregnancy, is not likely to die of phthisis. After delivery, a consumptive woman has probably not more than six weeks to live. For all phthisical persons, the danger of dying is considerably greater in spring, less in summer and winter, and least of all late in summer, towards autumn. If a phthisical person removes from a warm to a cold climate, the danger of death is thereby greatly increased.—*Edinburgh Medical Journal* from *Canstatt's Jahresbericht*, 1861.

VITAL STATISTICS OF BOSTON.

FOR THE WEEK ENDING SATURDAY, MARCH 29TH, 1862.

DEATHS.

	Males	Females	Total.
Deaths during the week,	35	28	63
Average Mortality of the corresponding weeks of the ten years, 1851-1861.	40.0	32.8	72.8
Average corrected to increased population,	81.28
Deaths of persons above 90,	2	..	2

Mortality from Prevailing Diseases.

Phthisis.	Chol. Inf.	Croup.	Scar. Fev.	Pneumonia.	Variola	Dysentery.	Typ. Fev.	Diphtheria.
10	0	2	7	5	0	0	2	0

COMMUNICATIONS RECEIVED.—Dr. Welch's translation of M. Saurel's paper on *Hæmaralopia*.—Case of Poisoning by Strychnia, by Dr. Julian Harmon.

PAMPHLETS RECEIVED.—Report of the Committee of the Overseers of Harvard College appointed to visit the Library for the year 1861.—Prof. Baker's Valedictory Address to the Graduating Class of the Cincinnati College of Medicine and Surgery.—Report of the Surgeon-General of the State of New York.

DEATHS IN BOSTON for the week ending Saturday noon, March 29th, 63. Males, 35—Females, 28.—Apoplexy, 1—bronchitis, 3—congestion of the brain, 1—disease of the brain, 1—cancer, 1—consumption, 10—convulsions, 2—roup, 2—dropsy of the brain, 1—epilepsy, 1—scarlet fever, 7—typhoid fever, 2—gastritis, 1—disease of the heart, 1—infantile disease, 2—intemperance, 1—inflammation of the lungs, 5—marasmus, 3—measles, 2—old age, 6—puerperal disease, 2—scrofula, 1—teething, 3—unknown, 2—whooping cough, 2.

Under 5 years of age, 26—between 5 and 20 years, 6—between 20 and 40 years, 15—between 40 and 60 years, 2—above 60 years, 14. Born in the United States, 48—Ireland, 13—other places, 2.